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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,195	08/21/2006	Bernhard Lettmann	PAT-01164	1062
77224	7590	10/30/2008	EXAMINER	
Mary E. Golota Cantor Colburn LLP 201 W. Big Beaver Road Suite 1101 Troy, MI 48084			SALVITTI, MICHAEL A	
			ART UNIT	PAPER NUMBER
			4131	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/598,195	Applicant(s) LETTMANN ET AL.	
	Examiner MICHAEL SALVITTI	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/21/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Method of Producing Curable Water-in-Oil Polyisocyanate Dispersions.

Claim Rejections - 35 USC § 101/35 USC § 112

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-17 provide for the use of water-in-oil dispersion detailed in the specification, but, since the claims do not set forth any steps involved in the method/process, it is unclear which methods/processes the applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 10-17 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under

35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5-7 and 10-17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,313,218 to *Fiori et al.*

Fiori demonstrates the synthesis of both curable oil-in-water and water-in-oil emulsion compositions containing reactive isocyanates. These emulsions are claimed to be useful in coating applications.

Example 1 of '218 (column 11, lines 43-68 and column 12, lines 1-21) shows a multicomponent system comprising a water-in-oil dispersion. As to component (I) of claim 1, a water-in-oil emulsion (column 12, lines 10-20), containing water-dispersible polymeric binders (column 11, lines 50-56) with 98% 2-Heptanone (column 11, line 47) as the solvent is demonstrated. CYTHANE® 3174 (column 18, line 39) is the polyisocyanate, and contains at least two reactive isocyanate functional groups. With respect to component (II) of claim 1, the polyisocyanate was dissolved in butyl acetate (column 18, line 40), which is an essentially water-free liquid. Regarding component (III) of claim 1, the final

product inherently contains water and polymeric binders after mixing (column 12, lines 13-20).

Claims 2 and 6, which cite less than 40% water by weight in the water-in-oil dispersion, have been anticipated by *Fiori*. Although every working example of '218 demonstrates water compositions of exactly 40.00% water by weight, *Fiori* specifies that the water concentrations can vary depending on the composition of the non-water components (column 10, lines 43-49). A preferred range of 35% to 45% is taught (column 10, lines 55-56), thereby anticipating the instant claim.

The process for preparing the multicomponent system, as outlined in claim 3, is demonstrated by *Fiori* in Example 1. Water was mixed with the preparation of surface-active isocyanate-reactive material (column 12, lines 10-20) containing a polymeric binder (column 11, lines 47-68). This was further mixed with the water-free liquid component to produce 'Curable Emulsion A' (column 18, lines 29-49).

As to claim 5, *Fiori* anticipates the preparation of oil-in-water emulsions. The preparation of water-in-oil emulsions is outlined in Example 1 (column 11, lines 43-68 and column 12, lines 1-20). The addition of water to the water-in-oil emulsion of Example 1 is demonstrated in column 18, lines 41-49 to create an oil-in-water emulsion. *Fiori* teaches "...a key aspect to obtaining improved results is to first prepare a water-in-oil emulsion of the components, then add additional aqueous medium until phase inversion occurs. Additional aqueous

Art Unit: 4131

medium can then be added to adjust the resulting oil-in-water emulsions to the desired solids content and viscosity as appropriate for a chosen end use," (column 9, lines 56-60). A detailed description of procedures for admixing water to create the oil-in-water emulsion (column 9, lines 64-68 and column 10, lines 1-38) is given. Curing is anticipated at ambient or elevated temperatures (column 11, lines 29-36).

Regarding claims 6 and 7, the starting water-in-oil emulsion can contain less than 40% water by weight (column 10, line 56). The starting mixture used to create an oil-in-water emulsion is, in fact, a water-in-oil emulsion that undergoes phase-inversion upon addition of an aqueous medium (column 9, lines 56-63).

Claims 9 and 10 cite the curing of the products obtained in instant claims 5 and 1, respectively. *Fiori* discloses a method of thermal curing (column 11, lines 29-41) to form a coating.

Claims 11-17 state the uses of compositions formed in the previous instant claims. *Fiori* anticipates these uses (column 10, lines 64-58 and column 11, lines 1-41).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 4, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,313,218 to *Fiori et al.*

In '218, *Fiori* teaches the manufacture of a multicomponent dispersion incorporating oil and water phases and containing reactive isocyanates with polymeric binders. In each of the 'Production of Low VOC Surface Active Isocyanate Reactive Material' sections (see all examples in columns 11-18), patent '218 discloses that the reactors used in the production of the non-aqueous phase were equipped with stirrers, which are an automatic form of mixing.

However, '218 does not teach the mixing procedure upon mixing the oil and water phases (see 'Production of Water Dispersible Reactive Materials' sections, also in columns 11-18, following the non-aqueous preparation). For example, column 12, lines 13-15 simply state the phrases "mix well" and "mix until dissolved".

Because an automatic stirrer was not specified in the admixing of the oil and water phases, it is reasonable to believe that this mixing may have been performed manually. Regardless, at the time of invention, it would have been

obvious to one of ordinary skill in the art to manually mix the oil and water phases, with the motivation of using the emulsions for “on the spot” applications (i.e. adhesives), or to more precisely control the phase inversion of the composition (see column 10, lines 39-56 of ‘218).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent No. 6,903,145 to *Nienhaus et al.* discloses the production of a clearcoat material containing isocyanate functional groups and cured thermally and with actinic radiation.
- U.S. Patent No. 6,005,045 to *Klanica* discloses the preparation of an oil-in-water emulsion used as a coating composition, also containing at least two reactive isocyanates.
- U.S. Patent No. 6,720,384 to *Mayer et al.* discloses a coating composition of isocyanates, prepared as a four-component mixture.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL SALVITTI whose telephone number is (571)270-7341. The examiner can normally be reached on Monday to Friday 8AM to 5PM EST.

Art Unit: 4131

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner
Art Unit 4131

M.S.